

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
4 November 2004 (04.11.2004)

PCT

(10) International Publication Number
WO 2004/095530 A3

(51) International Patent Classification⁷: **G06F 19/00**,
H01R 24/00, H01L 29/06

[US/US]; 29 Gallant Drive, Hampstead, NH 03841 (US).
ALLEN, Mark, A. [US/US]; 18 Winthrop Street, Essex,
MA 01929 (US). **KUDO, Yasuhisa** [JP/JP]; c/o Tokyo
Electron limited, 3-6, Akasaka 5-chome, Minato-ku,
Tokyo 107-8481 (JP).

(21) International Application Number:
PCT/US2004/006077

(74) Agent: **SACHAR, Surinder**; Oblon, Spivak, McClelland,
Maier & Neustadt, P.C., 1940 Ducke Street, Alexandria,
VA 22314 (US).

(22) International Filing Date: 17 March 2004 (17.03.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/458,407 31 March 2003 (31.03.2003) US

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

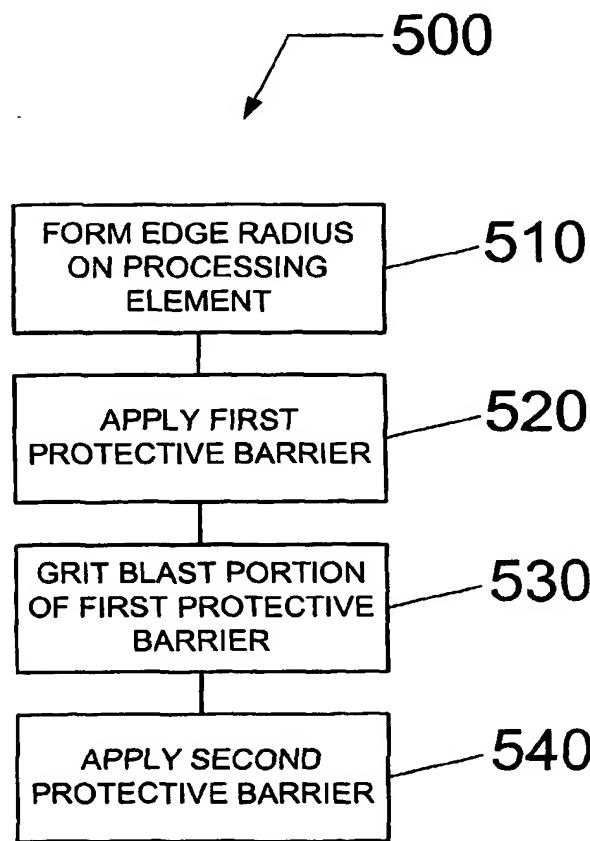
(71) Applicant (for all designated States except US): **TOKYO ELECTRON LIMITED** [JP/JP]; TBS Broadcast Center, 3-6 Akasaka 5-Chome, Minato-Ku, Tokyo 107-8481 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **ESCHER, Gary**

[Continued on next page]

(54) Title: ADJOINING ADJACENT COATINGS ON AN ELEMENT



(57) Abstract: Two or more coatings applied to processing elements of a plasma processing system are treated with protective barriers or coatings. A method is described for adjoining two or more coatings on the processing element. Having applied a first protective barrier (520), a portion of the first protective barrier is treated (530). A second protective barrier is then applied over at least a portion of a region to which the first protective barrier was applied (540).

WO 2004/095530 A3



(84) **Designated States (unless otherwise indicated, for every kind of regional protection available):** ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

(88) **Date of publication of the international search report:**
6 January 2005

Published:
— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/06077

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 19/00; H01R 24/00; H01L 29/06
 US CL : 700/121, 438/694, 627; 257/622

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 700/121; 438/694, 627, 696, 637, 622; 257/622, 623

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,265,757 B1 (BRADY et al.), 24 July 2001 (24.07.2001), whole document	1-7, 10, 12-13, 15-20, 23, 25
Y		8-9, 11, 14, 21-22, 24
A	US 6,143,646 (WETZEL), 07 November 2000 (07.11.2000), whole document	1-25
Y	US 2002/0090464 A1 (JIANG et al.) 11 July 2002 (11.07.2002), whole document	11, 14

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

01 November 2004 (01.11.2004)

Date of mailing of the international search report

15 NOV 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
 Commissioner for Patents
 P.O. Box 1450
 Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Zoila Cabrera

Telephone No. 571-272-3738